

Paleoseismic Trenching along the Central part of Fethiye Burdur Fault Zone, SW Turkey

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Fethiye Burdur Fault Zone (FBFZ) is an intracontinental fault zone in southwestern Turkey. The fault is an active, ~ 300 km long, 50 km wide fault zone characterized by the major earthquakes generated within both instrumental and historical period. It's extends between Pliny-Strabo trenches in the Mediterranean Sea and Burdur (SW Turkey). The FBFZ consisting of several fault segments.

Despite previous studies agree that the FBFZ is an important seismogenic zone, the sense of motion remains controversial. And paleoseismic data obtained from FBFZ are very limited. This study is mainly concerned with kinematic and paleoseismological features of Acıpayam fault. Acıpayam fault is an active fault, which is located on the central part of FBFZ. The total length of fault is 60 km. It is consisted of three fault section, which is separated by step-overs from each other.

In this study we have collected fault plane slip data from Acıpayam fault to understand the kinematic behaviour of fault. Additionally, two cross trench were excavated along the Acıpayam fault. Trenches were photographed by the Paleoseismological Three Dimensional Virtual Photography Method, which is a new technique for paleoseismology.

According to fault kinematic data collected from both outcrops and trenches, Acıpayam fault is a normal fault with minor left lateral strike-slip component. Based on the ¹⁴C dating results of samples collected from trenches and trench microstratigraphy, Acıpayam fault is described as a Holocene fault. The last event that occurred on the Acıpayam fault is dated as between 3030 ± 30 BP and 2410 ± 30 BP.